Introduction

The workshop on "The Evaluation of Chemical Mutagenicity Data in Relation to Population Risk" was held at the Governor's Inn, Research Triangle Park, North Carolina, on April 26–28, 1973, under the auspices of The National Institute of Environmental Health Sciences. The meeting was organized by Dr. Frederick J. de Serres, Chief of the Mutagenesis Branch at The National Institute of Environmental Health Sciences, with the cooperation of Dr. W. Gary Flamm, Chief of the Genetics Toxicology Branch of the Food and Drug Administration.

Although many of the papers included in this volume cite experimental data gathered by use of specific chemical agents, the overall aim and the primary objective of the workshop was directed towards a critical appraisal of the various methodologies for mutagenicity testing in current use, rather than the reporting of effects of individual mutagenic substances. Thus, the utility of a method is often weighed against the counterbalance of its weaknesses and shortcomings. This manner of presentation might occasionally seem to lead to opposing recommendations from different authors. However, it should be borne in mind that these proceedings are not to be taken as a "cookbook" for mutagenicity testing, but rather as a guideline for avoiding the pitfalls which have already been detected and for estimating the reliability of these tests.

That our present tests are limited in scope and at times unsatisfactory for extrapolating to the human population is evident from the many presentations examining the possibilities of newer, more definative systems. While some of these are theoretical considerations of the attributes which are desirable and necessary in a mutagenicity assay, others deal with actual test methods, the utility of which are being explored.

The pressing problem and the feature which generated the most discussion and concern, is how we are to proceed during the interim period while awaiting the development and trial of fully reliable tests. The consensus is that with thousands of chemicals currently in use, and the large number of new substances being developed each year, we must proceed without delay. We must use our present knowledge and tests judiciously and in combinations which might give greater surity in the estimation of risks. However, we must not allow ourselves to become locked into a rigid routine which will admit to no changes, but rather aim towards a continued advance in our studies leading to replacement of systems found wanting as newer, faster, more certain methods are developed.

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